

the handsome coloured plates of blue ground and diamonds of various shapes and colours, presented by Mr. Gardner Williams, stand out conspicuously.

While it is evident that much has been achieved, it is equally certain that in some branches only a start has been made. In fact, the dominant feeling produced by reading the several interesting articles is one that should inspire the greatest hope and enthusiasm among scientific students in this country and throughout South Africa. Here lie new worlds of unknown possibilities. As yet we stand only on the threshold. Far off glimpses of a wonderful country have been obtained, but it is the sight of a Kilimanjaro enshrouded in mist, not of the unclouded mighty mountain-mass.

W. G.

Stone Gardens. By Rose Haig Thomas. Pp. xii and plates. (London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd., 1905.)

An old wall sheltering such plants as are accommodating enough to grow in such a situation is often a delight; but to undertake the formation of a "stone-garden" in the way suggested by the author is to run counter to all our notions of the amenity and purpose of a garden. Various "designs" are offered for adoption, such as a lyre-shaped outline made of paving stones with flower-beds representing the strings, and separated by narrow strips of stone.

Another design shows three snakes intertwined, each snake made of flat stones of a different tint from its neighbour. The spaces between the serpentine convolutions are filled in with flower-beds. Other designs are more appropriate to a formal or architectural garden.

Of course, there is no disputing upon points of taste, and each garden-lover must exercise his or her fancies according to circumstances and in obedience to individual proclivity. But if the designer intends to furnish a model for other people to adopt, then we expect there will be comparatively few garden-lovers who will share the author's taste or feel inclined to adopt her suggestions.

Be this as it may, the author gives very clear directions as to how her designs should be carried out, and very judicious instructions as to the plants to be selected and the method of planting them. Provided these be properly carried out, kindly nature will do her best to conceal the flags and stones, and if the author's designs are somewhat interfered with in the process, that will not be a matter for regret on the part of most garden-lovers. The work is in quarto, with fourteen designs in colour.

Oblique and Isometric Projection. By John Watson. Pp. iv+59. (London: Edward Arnold, n.d.) Price 3s. 6d.

IN defining the forms and dimensions of solids by means of scale drawings, a very useful method in certain cases is that of metric projection whereby three systems of parallel edges of the solid are represented on paper by lines parallel to three axes drawn in arbitrarily selected directions, and to any three scales also independently chosen. The author deals only with isometric projection, and considers two cases, first, when the projection is orthogonal, secondly, when the projectors are oblique with the plane of projection taken parallel to a face of the solid, so that figures parallel to this face appear without distortion. The best part of the book is probably the chapter giving examples, mostly of joints in woodwork, used by the author in conducting classes in manual training; but it is doubtful whether it was worth while to publish a book of such limited scope.

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LETTERS TO THE EDITOR.

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Eclipse Phenomena.

No opportunity for discussion was given at the Royal Society meeting last Thursday, but the following brief notes may be suggestive and possibly useful.

The particles in the corona which reflect solar light to us are presumably moving very fast away from the sun, and accordingly are illuminated by light of apparently extra-long wave-length. This light, thus lowered in refrangibility, they will emit; and inasmuch as they are probably moving at all sorts of speeds, we might expect that Fraunhofer lines would be encroached upon and blotted out from the resulting emission, especially as some particles would have a component of velocity towards us and others away from us.

If any of the particles are emitted with anything like the speed of some of those from radium, the maximum change of frequency to be expected would be great.

Particles illuminated by rays normal to our line of sight will send us a plane polarised beam, but when the illuminating rays are oblique to the line of sight, as may be the case from some of the longer streamers, then the polarisation would be only partial.

How far single electrons may be able to resist the forced vibrations of light-waves, and thus become themselves polarised sources, is a matter on which I hope to try some experiments. The illumination in which they are immersed near the sun is very intense.

The circular or ring appearance seen in the midst of the corona in some photographs, with geometric centre at a distance from the apparent centre of explosion, looked to me like a gigantic vortex ring. I see no reason why a sun-spot should not eject such rings occasionally.

OLIVER LODGE.

Geometry of Position.

IN connection with the review of Mr. Wilson's recent book, on p. vi. of your supplement last week, may I direct the friendly attention of the reviewer and your readers to an old paper of mine in the *Philosophical Magazine* for November, 1875, where some of the theorems referred to are given. I myself have found a slight modification of the rapid system of writing chemical formulæ there advocated, extremely useful, and should like to advocate its use by elementary students of organic chemistry—but that is another matter.

OLIVER LODGE.

October 20.

Eclipse Predictions.

THE discrepancies referred to by Mr. J. Y. Buchanan (p. 603) as existing between the French and British predictions for the recent total eclipse of the sun are due simply to the fact that a different value of the moon's diameter is adopted in the *Connaissance des Temps* from that in the *Nautical Almanac*, the former being about 2".7 greater than the latter. Hence the breadth of the zone of totality and the duration of totality on the central line are greater in the French than they are in the British ephemeris. But there is no occasion to impute mistake to the French calculators. They merely assume a value of the moon's diameter that is, in my opinion, too large for eclipse purposes.

A. M. W. DOWNING.

October 20.

Chelifers and House-flies.

IT may be that the view suggested in my letter to NATURE of August 31, that the association of the Chelifer with the house-fly is to the advantage of the former in providing it with a wider geographical distribution, is not sound. I believe it is, but at the same time admit that there is not sufficient evidence at present to prove that the association is of material advantage to the species.

The important point to determine, however, is whether

the Chelifer is or is not a parasite on the house-fly. It is fully recognised now that house-flies play an important part in the distribution of the germs of certain diseases that affect mankind. Any animal, therefore, that injures or destroys the flies may assist in checking the spread of disease. But if, as Mr. Pocock suggests, the object of the Chelifer is to feed upon the acarine parasites of its host, it serves rather as a friend than a foe to the fly, and should certainly not be called a parasite.

There is no anatomical reason for believing that the Chelifers that have been found on flying insects are specially adapted to a parasitic mode of life, nor is there any evidence that the house-flies they are attached to are infested with mites or any other skin parasites. If the Chelifers are not parasitic on the flies, and there are no mites for them to attack, how can the association of the two forms be accounted for otherwise than by the transportation hypothesis?

Since I wrote my last letter to you I have found that this matter has been most fully discussed by Mr. Kew in his article on Lincolnshire Pseudoscorpions in the *Naturalist* for July, 1901, and I would refer readers of NATURE who are interested in the subject to that paper for fuller particulars.

SYDNEY J. HICKSON.

University of Manchester, October 21.

The Rudimentary Hind Limbs of the Boiné Snakes.

It is a well known fact that the pythons and boas and some allied forms among snakes possess rudiments of hind limbs, these vestiges—to quote Boulenger's "Catalogue of Snakes in the British Museum"—"usually terminating in a claw-like spur visible on each side of the vent." These structures are always mentioned in general works upon Ophidia, such as Hoffmann's account of the serpents in vol. vi. of Bronn's "Klassen und Ordnungen des Thierreichs," and Gadow's "Reptiles and Amphibians" in the "Cambridge Natural History." But in none of the three treatises to which I refer is there any further account of the "claws" or "spurs." It is merely stated that they are present. It is not mentioned in these works, nor in some others which I have consulted, that the claws in question offer valuable sexual characters by the aid of which individuals can be referred to their proper sex, at least in certain Boidæ. The fact that these characters have been so largely overlooked is perhaps due to the slight stress laid upon them by Duméril and Bibron (*Erpétologie Générale*, vol. vi., 1844), who, however, did direct attention to the occurrence of differences in these organs between the two sexes in a number of Boidæ. But they speak of the claws merely as being "d'une très petite dimension chez des femelles," and as "plus développés chez les mâles que chez les femelles." The first of these quotations refers to *Eunectes*, the second to *Boa*. The differences, however, in *Eunectes notaeus* are greater. In this southern anaconda, of which several specimens were lately deposited in these gardens by the Hon. Walter Rothschild, there is in the male a sharp curved claw turned downwards and ridged along its lower surface. In the female, on the other hand, the representative of this claw is not a claw at all strictly speaking—if, that is to say, we mean by a claw a nail-like structure which is curved and compressed and ends in a sharp point. In the female there is a straight, blunt, horny process distinctly unlike the sharp claw of the male. In two young examples of this anaconda, which are females, the same type of horny structure is found as in the adult female. In the allied genus *Eryx* there are still greater differences between the two sexes.

FRANK E. BEDDARD.

Zoological Society's Gardens, October 18.

A Rare Game Bird.

MR. SAWBRIDGE (p. 605) has raised one of the most perplexing points connected with bird-migration. I cannot answer for the eastern counties of England, but here, in the south-west of Scotland, we are still further from the headquarters of the quail than he is. Fifty years ago quails bred regularly in western Galloway; as a boy I recollect that two or three brace were quite a common complement to a September bag. Indeed, when a

"cheeper" or undersized partridge was shot, "Put it down as a quail!" was the usual comment. These birds gradually disappeared; the last that I myself shot was about the year 1868; but an odd one has been obtained here and there in the district ever since. One, I know, was shot last month in the neighbourhood of Newton Stewart, and was reckoned such a curiosity that it was sent to the bird-stuffer. I am sorry that I do not know whether it was a young or an old bird. Besides this, other instances, if I mistake not, have been recorded in the *Field* from different parts of the country.

As to the cause of the general disappearance of quails from this district, there have been many speculations, the commonest notion being that the supply is so heavily taxed in the Mediterranean region that few birds escape to the north. Truly, when one considers the enormous consignments of quails to London, Paris, &c., there is no reason for surprise that the migrants should dwindle in number.

I have a vague recollection of being told in boyhood that about the year 1838 there was a large influx of quails into Galloway, and that they had bred there ever since, but in numbers annually decreasing. It is conceivable that a storm-driven flock may have been carried out of their bearings, and, finding food abundant and climate endurable, if not altogether congenial, remained as colonists, but that our wet summers have proved adverse to their young being reared. The fluctuation in the stock of partridges caused by the character of different seasons is very remarkable, and evidently neither the numbers nor the constitution of our quails have enabled them to survive adverse conditions of temperature and rainfall. This makes the sporadic occurrence of individuals at long intervals all the more remarkable and perplexing.

HERBERT MAXWELL.

Monreith, Wigtownshire, October 22.

On a New Species of Guenon from the Cameroons.

A CHARMINGLY docile species of guenon, obtained by Cross, of Liverpool, from the Cameroons, in West Africa, and recently submitted to me for identification proves to be undescribed. I propose for it the name *Cercopithecus crossi*, in compliment to the courteous proprietor of that large and well known importing house of wild animals, and for popular use the same of Cross's guenon. The animal is a male, apparently nearly full grown, but not entirely adult, as the condition of its teeth indicate. It is very similar to *C. moloneyi* of Sclater, in general appearance, in having the broad rufous lower back, but differs in having a large and bushy pure white beard, white throat, and bushy whiskers of black hairs ringed with white; the band across the forehead deep black instead of fulvous; sides of head speckled black and white; underside of body sooty-black speckled with white; the tail not deep black except at tip, but speckled black and white like the upper part of the back; the black on the forearm externally does not extend to the shoulder, and not much beyond the elbow; the outer aspect of thighs is black slightly peppered with white; the inside of arms below the elbow black, higher up sooty-grey; inside of hind limbs sooty-black.

The top of the head is black, the hairs sparsely ringed with white; the face, cheeks, and ears quite nude and purplish black in colour; long superciliary hairs are present; the callosities are small and purplish sooty-grey in colour.

From *C. albigularis* (Sykes's guenon) the present species differs in wanting the yellowish wash on shoulders, fore and hind limbs, and in having a brindled and not a black tail.

HENRY O. FORBES.

The Museums, Liverpool, October 12.

The Absorption Spectrum of Benzene in the Ultra-violet Region.

WE were glad to see in NATURE of October 5 a letter from Prof. Hartley in which he points out the near agreement between our measurements of the bands in the absorption spectrum of benzene and those made by Prof. Dobbie and himself. He also directs attention to the work of Friederichs, who, in the case of benzene vapour,